

## DROP AND BLOCK WIRING

### FASTENING AND EQUIPPING FIRST ATTACHMENTS OF DROP WIRE RUNS TO BUILDING

#### 1. GENERAL

1.01 This section specifies:

- The rules to be followed in planning drop wire runs to buildings
- The methods of fastening and equipping first attachments
- The fastener to be used on various type surfaces.

1.02 This section is reissued to:

- Revise format of text
- Revise Tables A, B, C, and D
- Revise Fig. 5 and 7
- Add information on selection of fasteners and attachments.

1.03 The attachments to be used in any installation depend on a number of factors, such as:

- Loading areas
- Number of drops to be placed
- Angle at which drop approaches building
- Insulated or noninsulated attachments.

1.04 Drop wire attachments for use on all types of walls in heavy loading areas are listed in the section entitled Attaching Devices for Walls in Heavy Loading Areas.

1.05 Drop wire attachments for use on all types of walls in medium and light loading areas are listed in the section entitled Attaching Devices for Walls in Medium and Light Loading Areas.

1.06 The use of insulated or noninsulated attachments is covered in the section entitled Station Protection Required for Various Conditions of Plant and Exposure.

1.07 In order to obtain secure attachments and to avoid damage to building surfaces it is essential that the specific instructions covered in the section entitled Attachments and Fasteners, Description of Surfaces Encountered, be followed. Of particular importance are the clearance and lead holes for fasteners.

1.08 When attaching galvanized attachments on buildings with aluminum siding in highly corrosive areas (industrial and marine) observe the following:

- Apply a coating of KS-14681, List 1 anti-rust compound to the siding at the point of contact to prevent corrosive action.
- For method of application refer to division 080.

**Caution: It is possible for foreign voltage to be present on buildings covered with metal siding. Test siding with B voltage tester before starting any work.**

#### 2. RULES

2.01 In planning drop wire runs to buildings observe the following instructions:

- (a) Locate the first building attachment so that the drop span will have the required clearance from light or power wires, trolley wires, other foreign wires, and metallic objects.
- (b) Locate the first building attachment so as to avoid tree interference, keeping in mind the future growth of existing trees. It is preferable to make a longer wire run on the building if by so doing the trees can be cleared.
- (c) Locate the first building attachment so that the drop span can be placed with adequate sag.
- (d) *Where practical*, locate the first building attachment, when two or more drop wires to a building are involved, preferably at the same

point, bearing in mind that the locations of the initial and subsequent attachments should be such as to provide satisfactory wire runs in the span and on the building.

(e) *Where practical*, locate the first building attachment so the drop wire will make a direct vertical run to the last attachment, provided that the drop wire in the span would have adequate clearance from trees, would not be objectionable if it crosses adjacent property, or would not cross portions of vacant lots on which buildings are likely to be erected.

(f) *Where practical*, locate the first building attachment so that ice and snow falling from the roof will not strike the drop wire. If the drop wire in the span must pass under the

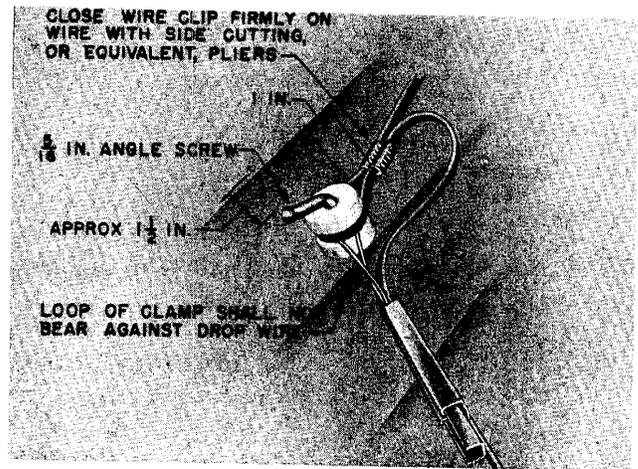
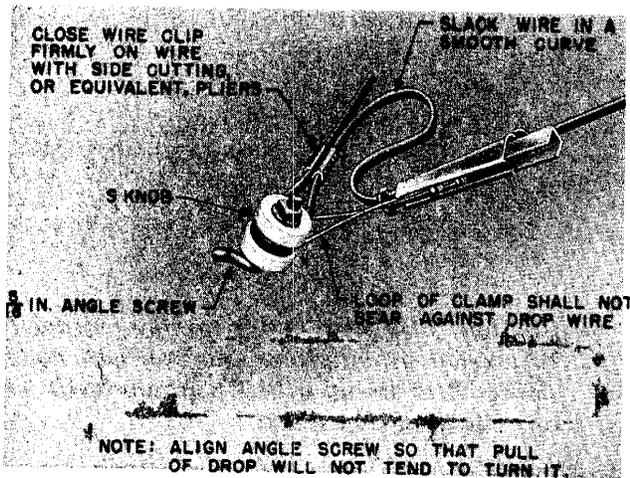
sloping part of a roof, make the first attachment as near the eaves as possible.

(g) Locate the first attachment so that anchors will not be placed less than 10 inches to a corner or top of a wall, except in turning corners.

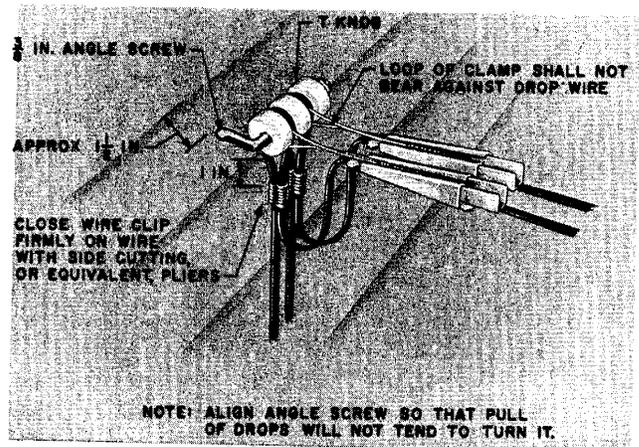
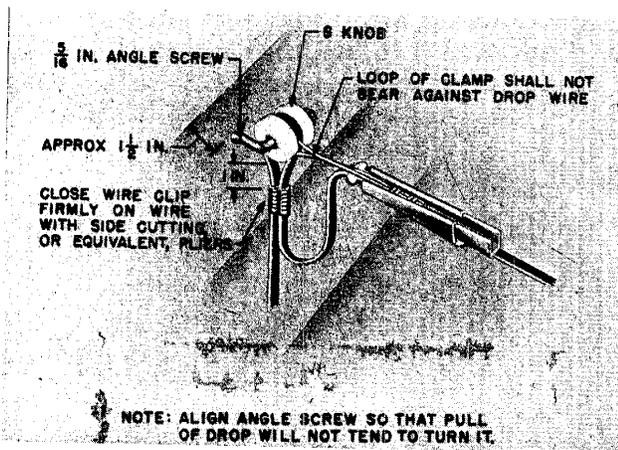
**3. TYPICAL FIRST ATTACHMENTS TO BUILDINGS AND STEEL STRUCTURES (Fig. 1 through 9)**

**3.01** Tables A, B, C, and D list anchoring devices of first attachments used on various surfaces.

**3.02** Table E lists equipping information for first attachments.



**Fig. 1 — First Attachment, Angle Screw (Drop Wire Run in Horizontal Direction on Building)**



**Fig. 2 — First Attachment, Angle Screw (Drop Wire Run in Vertical Direction on Building)**

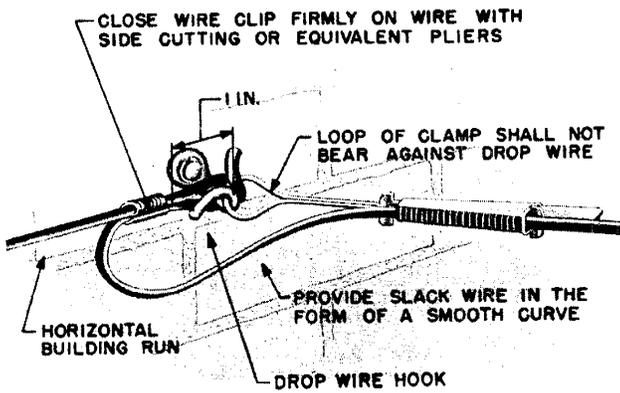


Fig. 3 — First Attachment, Drop Wire Hook

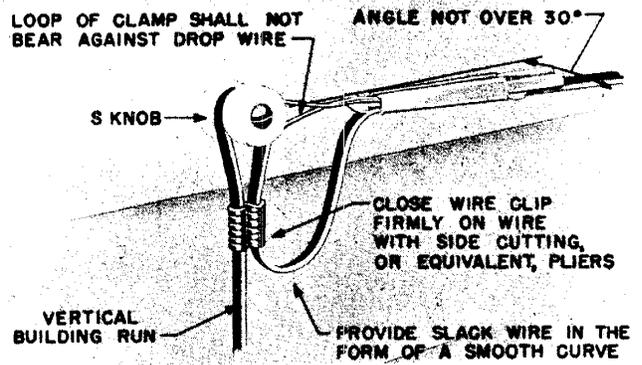


Fig. 4 — First Attachment, S Knob

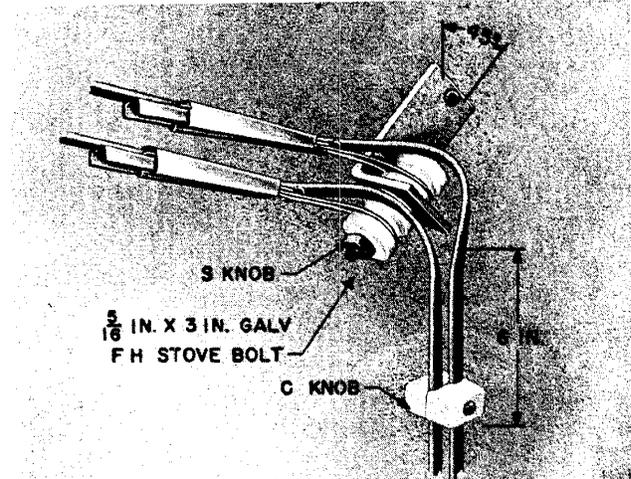
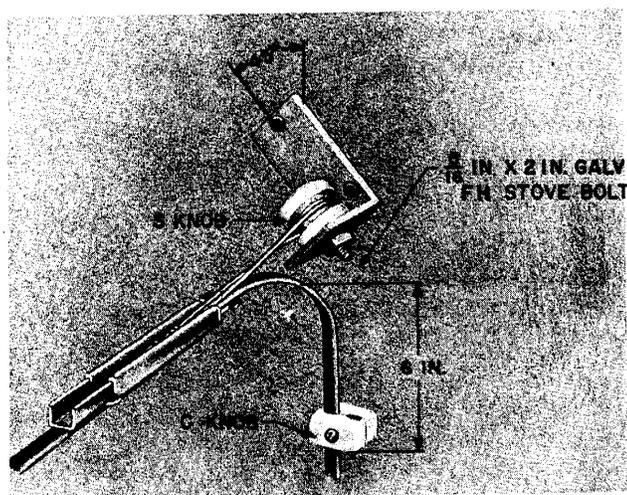
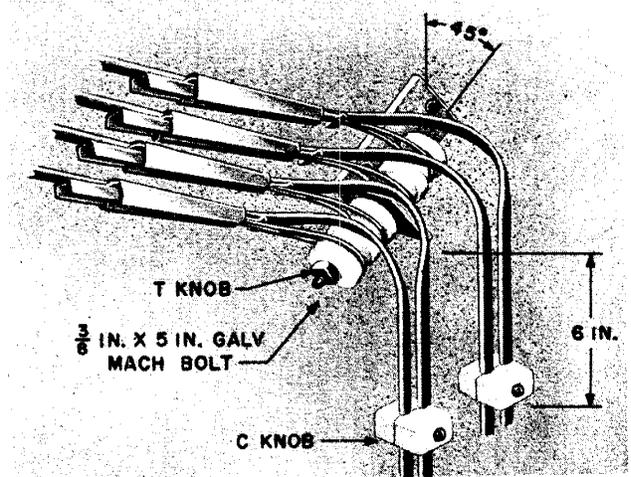
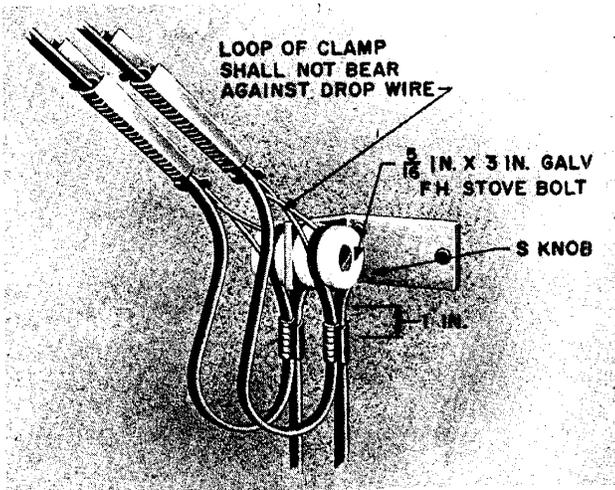


Fig. 5 — First Attachment, House Bracket (Drop Wire Run in Vertical Direction on Building)

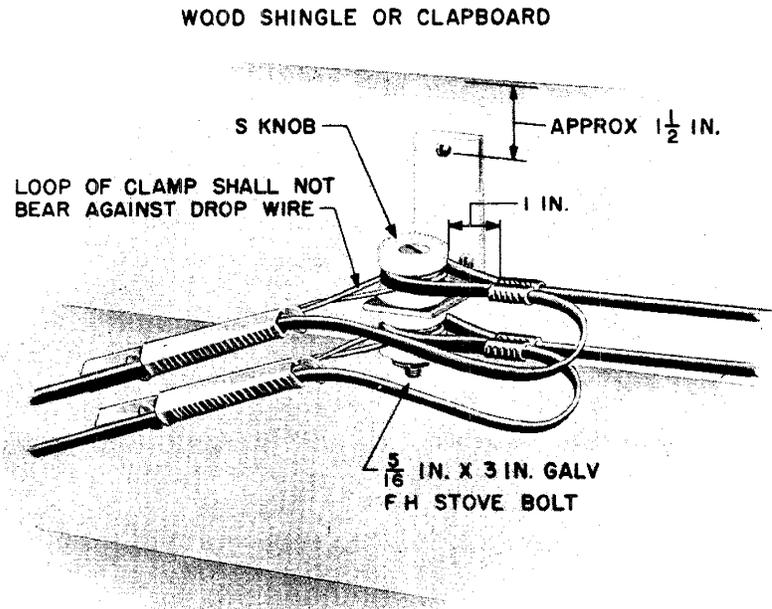


Fig. 6 — First Attachment, House Bracket (Drop Wire Run in Horizontal Direction on Building)

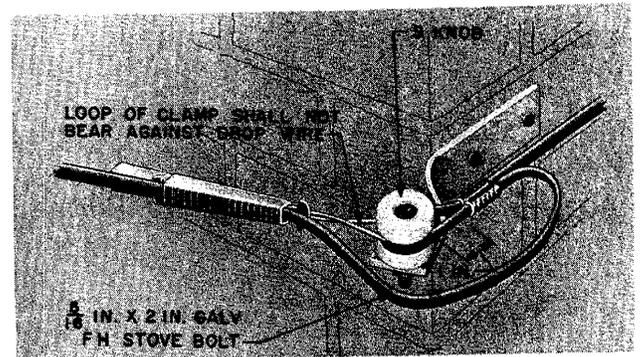
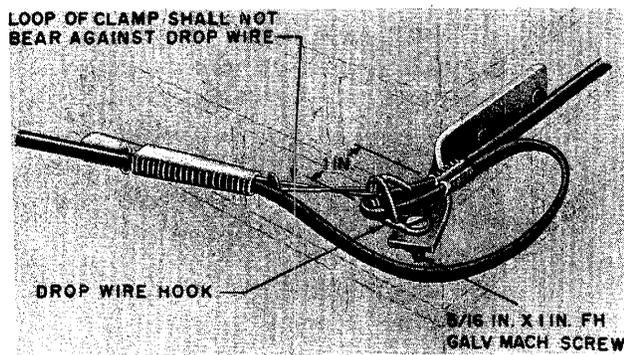


Fig. 7 — First Attachment, Corner Bracket

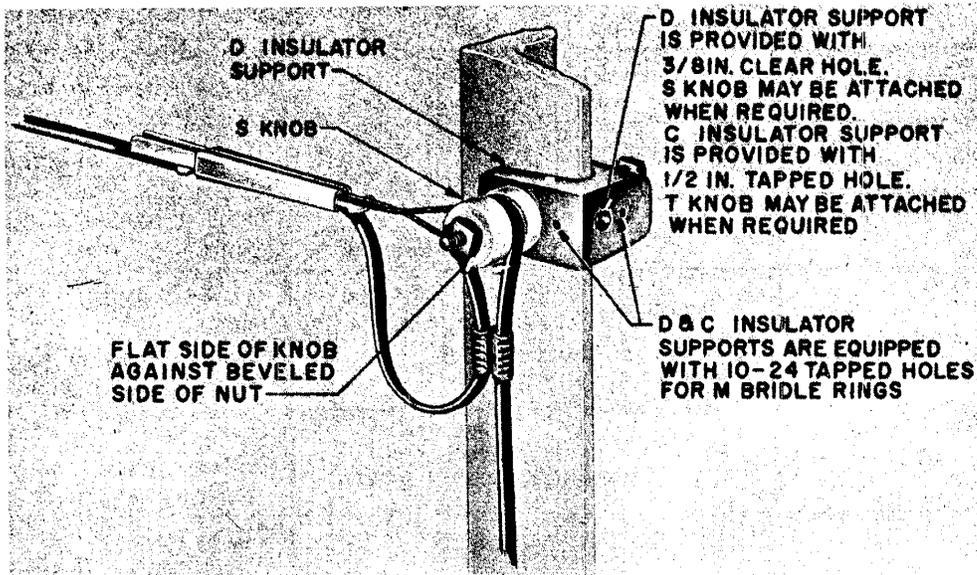


Fig. 8 -- First Attachment D or C Insulator Support

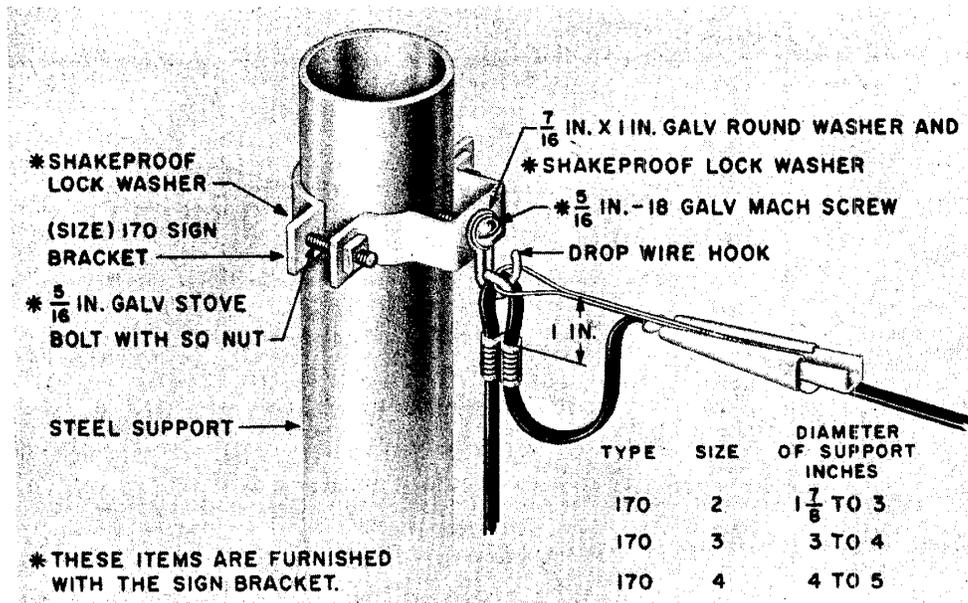


Fig. 9 -- First Attachment, Sign Bracket, 170 Type

**TABLE A**  
**FASTENERS FOR DROP WIRE HOOK**

Wall Type	Fasteners		Remarks
	Quantity	Type	
Wood Siding	1	2-in. No. 18 RH galvanized wood screw	Place screw in studding.
Stucco on Wood	1	2-in. No. 18 RH galvanized wood screw	Place screw in studding.
Rigid Composition Shingles	1	2-in. No. 18 RH galvanized wood screw	Drill clearance hole to avoid splitting shingle.
Masonry or Substantial Brick Veneer*	1	5/16-in. by 1-3/4-in. B drive anchor	Locate anchor in center of brick. Second drop wire hook should be located in separate brick.
Thin Wall Brick Veneer (Less Than 3-3/4 Inch Thickness)	1	6-in. No. 18 RH galvanized wood screw	Pass screw through the seam be- tween bricks. Penetrate wood backing approximately 1 inch.
Hollow Tile	1	5/16-in. by 5-in. RH galvanized toggle bolt	Place 7/16 in. by 2-in. galvan- ized square washer between wall and drop wire hook.

\* Do not use corner or top row of bricks.

**TABLE B**  
**FASTENERS FOR S AND T KNOBS**

Wall Type	Attach- ment Knob	Fasteners		Remarks	
		Quantity	Type		
Wood Siding	S	1	2-1/2 in. No. 18 FH galvanized wood screw	Place screw in studding.	
	T	1	3-1/2 in. No. 18 FH galvanized wood screw		
Stucco on Wood	S	1	3-in No. 18 FH galvanized wood screw	Use 3-1/2 in.	If necessary to penetrate studding.
	T	1	3-1/2 in. No. 18 FH galvanized wood screw	Use 4-1/2 in.	
Rigid Composition Shingles	S	1	3-1/2 in. No. 18 FH galvanized wood screw	Drill clearance hole to avoid splitting shingle.	
	T	1	4-1/2 in. No. 18 FH galvanized wood screw		
Thin Wall Brick Veneer (Less Than 3-3/4 Inch Thickness)	S	1	7-in. No. 18 FH galvanized wood screw	Pass screw through the seam between bricks. Penetrate wood backing approximately 1 inch.	
	T	1	7-in. No. 18 FH galvanized wood screw		
Hollow Wall	S	1	5/16 in. by 5 in. RH galvanized toggle bolt	Place flat side of S knob against bolt head.	
	T	1	5/16 in. by 6 in. FH galvanized toggle bolt		

**TABLE C**  
**FASTENERS FOR HOUSE BRACKETS**

Wall Type	Fasteners		Remarks
	Quantity	Type	
Wood Siding	3	2-in. No. 14 RH galvanized wood screws	Place screw in studding.
Stucco on Wood	3	2-1/2 in. No. 14 RH galvanized wood screws	Place screw in studding.
Rigid Composition Shingles	3	3-in. No. 14 RH galvanized wood screws	Drill clearance hole to avoid splitting shingle.
Masonry or Substantial Brick Veneer	2	5/16 in. by 1-1/4 in. B drive anchor	
Thin Wall Brick Veneer (Less Than 3-3/4 Inch Thickness)	2	6-in. No. 14 RH galvanized wood screws	Pass screw through the seam between bricks. Penetrate wood backing approximately 1 inch.
Hollow Wall	2	1/4 in. by 3 in. or 4 in. RH galvanized toggle bolt	

**TABLE D**  
**FASTENERS FOR CORNER BRACKETS**

Wall Type	Fasteners		Remarks
	Quantity	Type	
Wood Siding	2	2-in. No. 14 RH galvanized wood screws	Place screw in studding.
Stucco on Wood	2	2-1/2 in. No. 14 RH galvanized wood screws	Place screw in studding.
Rigid Composition Shingles	2	3-in. No. 14 RH galvanized wood screws	Drill clearance hole to avoid splitting shingle.
Masonry or Substantial Brick Veneer	2	5/16 in. by 1-1/4 in. B drive anchor	
Thin Wall Brick Veneer (Less Than 3-3/4 Inch Thickness)	2	6-in. No. 14 RH galvanized wood screws	Pass screw through the seam between bricks. Penetrate wood backing approximately 1 inch.
Hollow Wall	2	1/4 in. by 3 in. or 4 in. RH galvanized toggle bolt	

**TABLE E**  
**EQUIPPING DROP WIRE ATTACHMENTS WITH S KNOB, T KNOB, OR DROP WIRE HOOK**

Attachments		Equipped with			Hardware	Remarks
		S Knob	T Knob	Drop Wire Hook		
Angle Screw	5/16 in.	1			Nut furnished	Place flat side of knob against beveled side of nut.
	3/8 in.		1			
House Bracket		1			5/16 in. by 2 in. FH galvanized stove bolt	Place flat side of first knob against house bracket.
		2*			5/16 in. by 3 in. FH galvanized stove bolt	Place flat side of second knob against beveled side of nut.
			1		3/8 in. by 3 in. galvanized machine bolt	Place flat side of first knob against bolt head.
			2*		3/8 in. by 5 in. galvanized machine bolt	Place flat side of second knob against nut.
				1	5/16 in. by 1 in. FH galvanized machine screw	Obtained locally.
Corner Bracket		1			5/16 in. by 2 in. FH galvanized stove bolt	Place flat side of knob against corner bracket.
		2*			5/16 in. by 3 in. FH galvanized stove bolt	Place flat side of top knob against bolt head and place nut against flat side of lower knob.
			1		3/8 in. by 3 in. galvanized machine bolt	Place flat side of knob against bolt head.
				1	5/16 in. by 1 in. FH galvanized machine screw	Obtained locally.
Insulator Supports	D	1			5/16 in. by 2 in. FH galvanized stove bolt	Place flat side of knob against beveled side of nut.
	C		1		3/8 in. by 3 in. galvanized machine bolt	
	D			1	5/16 in. by 1 in. FH galvanized machine screw	Obtained locally.
	C					
Sign Bracket, 170 Type				1	5/16 in. by 3/4 in. RH galvanized machine screw	Machine screw and lock washers furnished. Obtain 7/16 in. by 1 in. galvanized round washer locally.

\* Locate one knob above and one knob below bracket.

#### **4. FIRST ATTACHMENTS ON LOW BUILDINGS**

**4.01** Parts 4, 5, and 6 provide information on typical first attachments on low buildings using house fixtures provided by customers to obtain necessary ground clearance for drop wire.

**4.02** Where house clearance fixtures are required but have not been provided or where joint use of a fixture is impracticable, refer the matter to your supervisor.

**4.03** Where clearance fixtures are provided but the required minimum ground clearance for drops cannot be obtained, refer the matter to your supervisor.

#### **5. PRECAUTIONS**

**5.01** Observe the following precautions when planning attachment to a subscriber-owned clearance fixture.

- (a) Avoid climbing on roofs of subscriber premises.
- (b) Before making attachment, inspect fixtures, but do not make an attachment if there is any doubt as to the strength or firmness of the fixture.
- (c) On joint-use fixtures observe location of the power service drops in order to avoid body contact. Wear rubber gloves when making attachment to the fixture. Obtain a separation of at least 1 foot between telephone and power wires.

#### **6. CLEARANCE FIXTURES AND METHODS OF ATTACHMENT**

**6.01** Fig. 10 through 15 show types of clearance fixtures commonly provided by subscribers and the recommended methods of making drop wire attachment. Where other types of fixtures are provided and different methods of making drop wire attachments are required, local instructions should be issued.

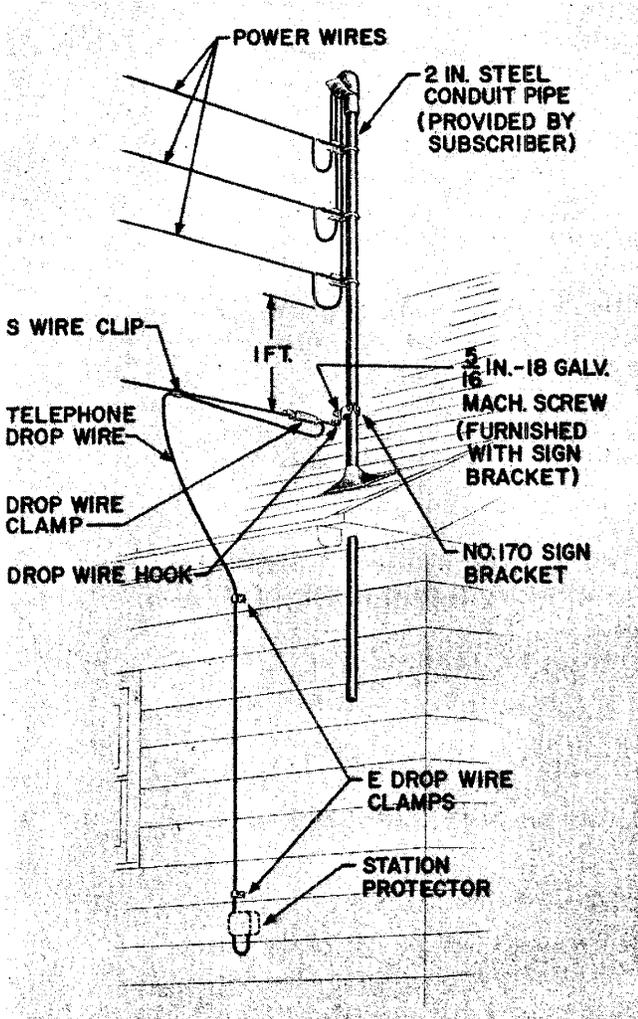


Fig. 10 — Drop Wire Attached to Power Fixture

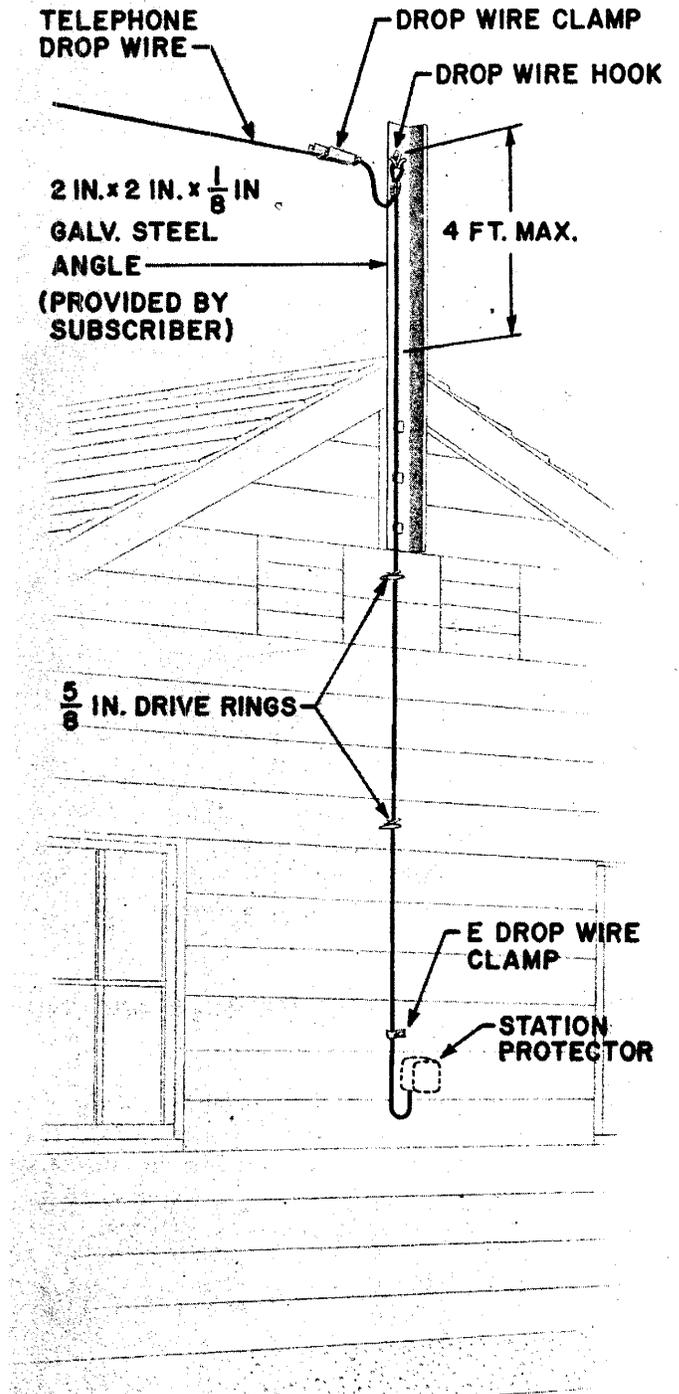


Fig. 11 — Drop Wire Attached to 2-Inch Angle Iron

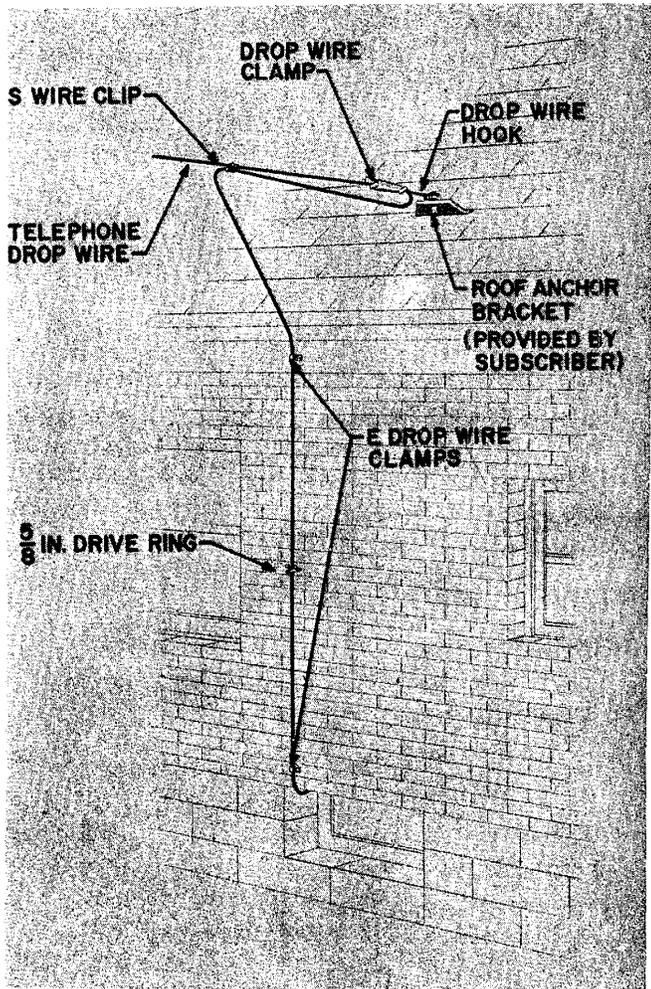


Fig. 12 — Drop Wire Attached to Roof Anchor Bracket

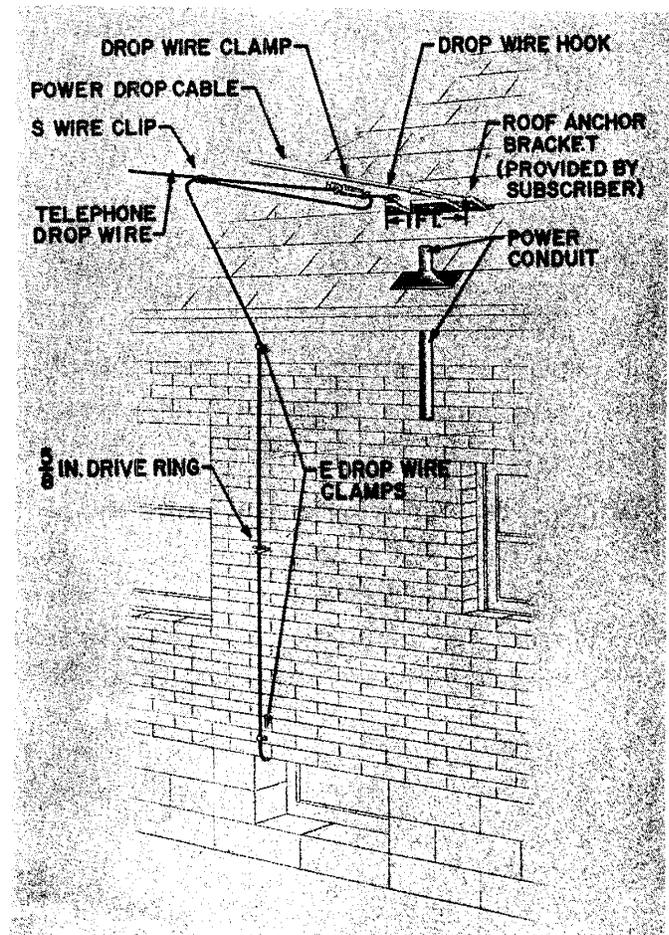


Fig. 13 — Drop Wire and Power Cable Attached to Roof Anchor Bracket

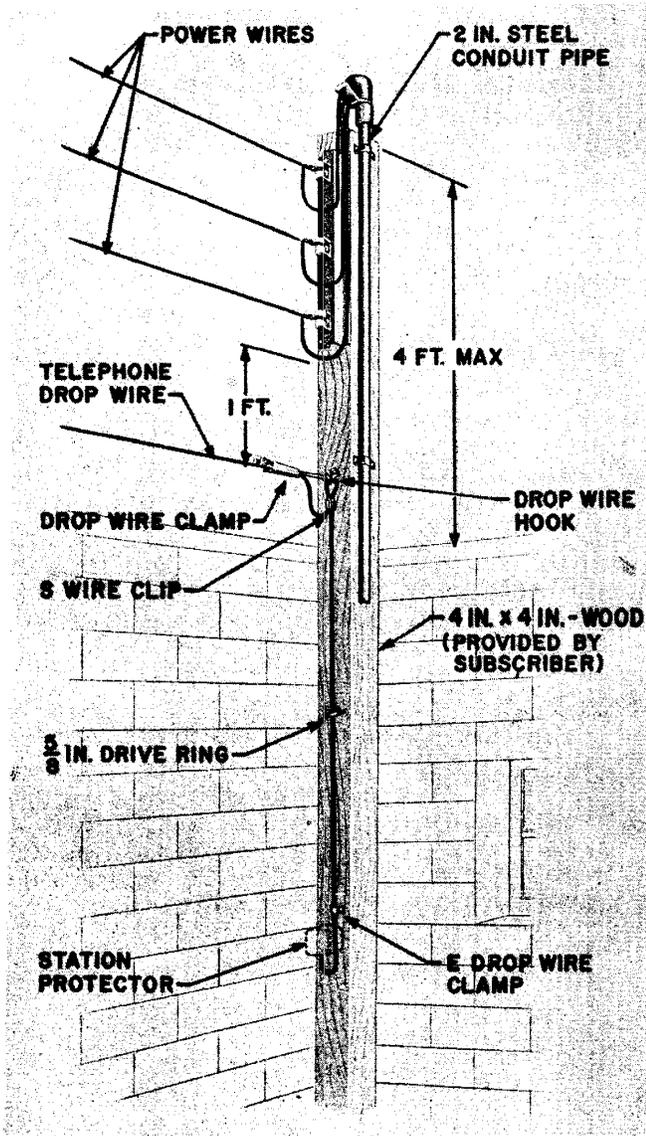


Fig. 14 — Drop Wire Attached to Subscriber Pole

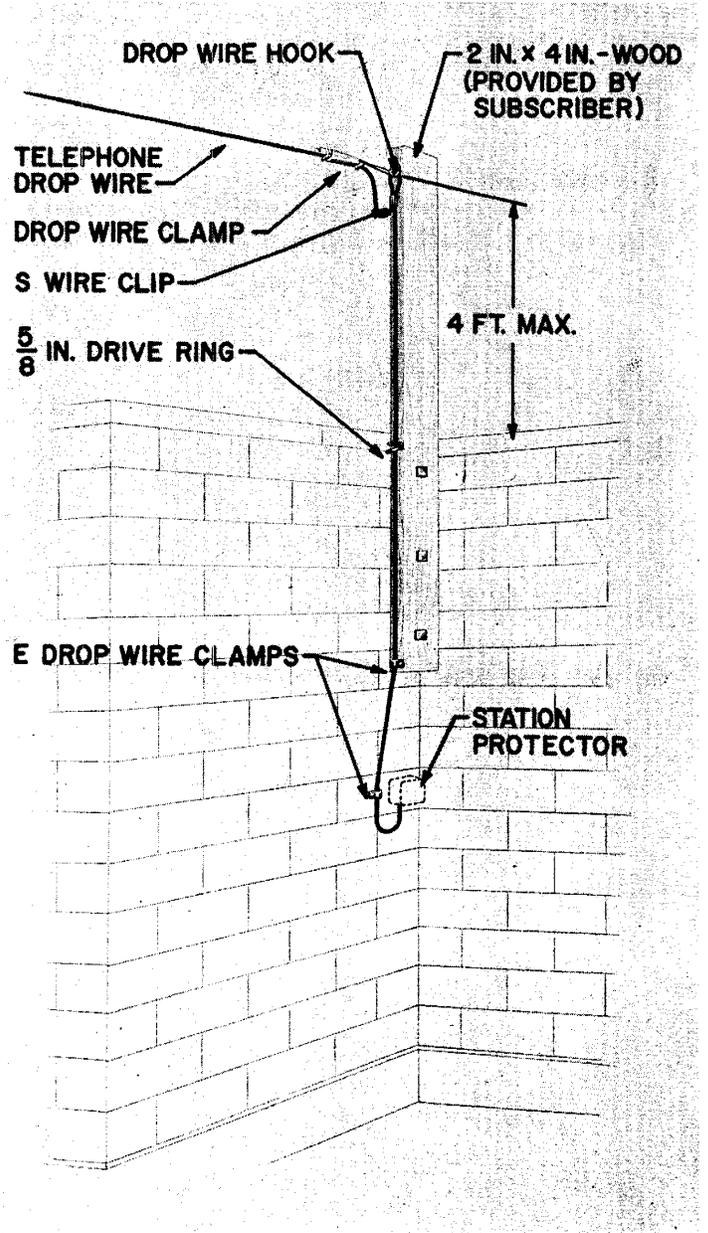


Fig. 15 — Drop Wire Attached to 2-Inch by 4-Inch Wood Beam